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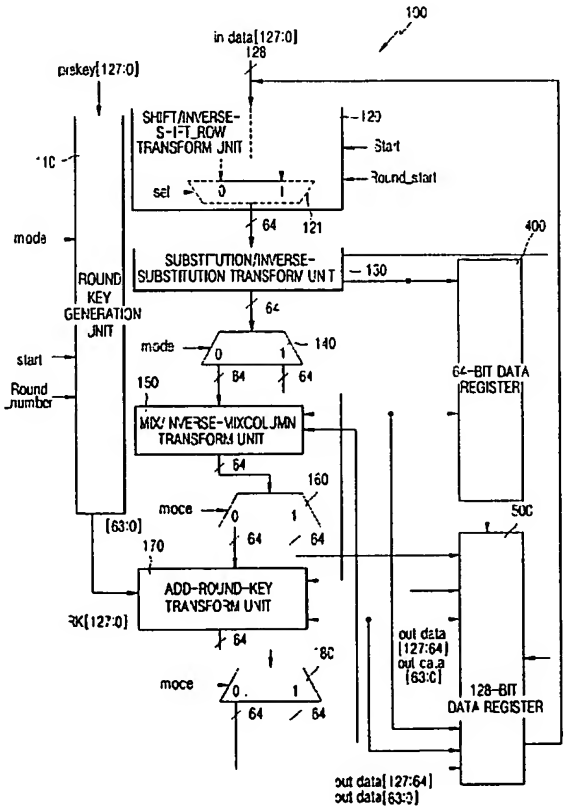
(54) Title: RIJNDAEL BLOCK CIPHER APPARATUS AND ENCRYPTION/DECRYPTION METHOD THEREOF



(57) Abstract: A rijndael block cipher apparatus including an operational unit that efficiently performs a round operation for encrypting/decrypting a rijndael block cipher and an encryption/decryption method thereof are disclosed. The rijndael block cipher apparatus is mounted in a mobile terminal such as a cellular phone and a PDA or a smart card, which requires a high-rate and small-sized cipher processor, and can encrypt and decrypt important data that requires security at high speed and perform the round operation with respect to upper 64 bits and lower 64 bits which are divided from 128-bit input data. Thus, the cipher apparatus can reduce the time required for encryption/decryption of the rijndael block cipher and the size of the apparatus.

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